WE CLAIM:

1. A method of producing a recombinant virus comprising:

(a) providing a viral genome;

(b) inserting one or more first exogenous sequences encoding a desired protein or peptide into the genome;

(c) inserting one or more second exogenous targeting sequences encoding a targeting element into the genome which has the function of targeting the complex to a specific location; and

(d) transfecting an appropriate host, and allowing the host to produce the virus.

2. The method of claim 1, wherein a first exogenous sequence encodes a protein or peptide that is antigenic for the target animal.

3. The method of claim 1, wherein a first exogenous sequence encodes a protein or peptide that is an allergen for the target animal.

4. The method of claims 1-3, wherein more than one first exogenous sequence is inserted.

5. A recombinant virus produced by the methods of claims 1-4.

6. A genetic construct comprising a viral genome with a first exogenous sequence for display of a peptide or protein on a viral capsid protein, and a second exogenous sequence for display of a targeting moiety.

7. The construct of claim 6, wherein the viral genome is modified to attenuate the virus in its natural host organism.

8. The construct of claim 6, wherein the exogenous sequences are inserted into a region or regions truncated to remove sequence unnecessary for viral replication.

9. The construct of claim 6, wherein the viral genome has been modified or truncated.

10. The construct of claim 6, wherein the first exogenous sequence is antigenic in an animal.

11. The construct of claim 6, wherein the first exogenous sequence is allergenic in an animal.

12. A recombinant virus produced from the genetic construct of claim 6.

13. A vaccine comprising a construct of claims 6-12.

14. A method of using the vaccine of claim 13, comprising:

(a) infecting an organism with a construct of claims 6-12; and

(b) orally feeding the whole biomass of the infected organism to human or non-human animals.

15. The method of claim 14, wherein the biomass has been processed for uniform dosing.

16. The method of claim 15, wherein the biomass is freeze dried.

17. The method of claim 15, wherein the biomass is encapsulated.

18. The vaccine of claim 13, wherein the vaccine is an oral vaccine.

19. The vaccine of claim 13, wherein the vaccine is an injectable vaccine.

20. A method of treating allergy in a subject in need of such treatment, comprising:

(a) providing the recombinant virus of claim 5 or claim 12; and

(b) administering the virus to the subject.

21. The method of claim 20, wherein the treatment is oral.

22. The method of claim 20, wherein the treatment is injectable.

23. The method of claims 20-21, further comprising:

(a) infecting an organism with the recombinant virus of claim 5; and

(b) orally feeding the whole biomass of the infected organism to human or non-human animals.

24. The method of claim 23, wherein the biomass has been processed for uniform dosing.

25. The method of claims 20-24, wherein the biomass is freeze dried.

26. The method of claims 20-24, wherein the biomass is encapsulated.

27. A method of producing a recombinant virus-like particle comprising:

(a) providing a viral genome;

(b) isolating at least one viral coat protein sequence;

(c) inserting at least one first exogenous sequence encoding a protein or peptide of interest into the coat protein sequences;

(d) inserting at least one second exogenous sequence encoding a targeting sequence;

(e) cloning the viral coat protein sequence comprising the first and second exogenous sequences into an appropriate vector; and

(f) transforming an appropriate host.

28. The method of claim 27, wherein the first exogenous sequence encodes a protein or peptide that is antigenic in an animal.

29. The method of claim 27, wherein the first exogenous sequence encodes a protein or peptide that is an allergen in an animal.

30. The method of claim 27, wherein more than one first exogenous sequences is inserted.

31. The method of claim 27, wherein one or more of the second exogenous sequences has the function of targeting the complex to a specific location.

32. The method of claim 27, wherein more than one viral coat protein is isolated.

33. A recombinant virus-like particle produced by the method of claims 27-32.

34. A genetic construct comprising at least one viral coat protein containing exogenous sequence for displayed peptides or proteins.

35. The construct of claim 34, wherein more than one viral coat protein has been modified to display foreign proteins or peptides.

36. The construct of claim 34, wherein more than one non-identical exogenous protein has been inserted.

37. The construct of claim 34, wherein the exogenous sequence is inserted into a region truncated to remove sequence unnecessary for virus-like particle self-assembly.

38. The genetic construct of claim 34, wherein the first exogenous sequence is antigenic in an animal.

39. The genetic construct of claim 34, wherein the first exogenous sequence is allergenic in an animal.

40. A recombinant virus-like particle produced from the genetic construct of claims 34-39.

41. A method of using the recombinant virus-like particle of claims 34-39 as a vaccine, comprising:

(a) providing the recombinant virus-like particle; and

(b) administering it to a subject.

42. The method of claim 41, further comprising:

(a) infecting an organism with the recombinant virus-like particle of claim 40; and

(b) orally feeding the whole biomass of the infected organism to human or non-human animals.

43. The method of claim 42, wherein the biomass is processed for uniform dosing.

44. The method of claims 41-43, wherein the biomass is freeze dried.

45. The method of claims 41-43, wherein the biomass is encapsulated.

46. The method of claims 41-46, wherein the vaccine is used as a treatment for allergy.

47. The method of claim 41, wherein the vaccine is administered by injection.

48. A vaccine comprising the recombinant virus-like particles of claims 34-39, wherein the particles are isolated.